R E M A R K S

Reconsideration of the present application, as amended, is respectfully requested.

The July 3, 2001 Office Action and the Examiner's comments have been carefully considered. In response, claims are amended, and remarks are set forth below in a sincere effort to place the present application in form for allowance. The amendments are supported by the application as originally filed. Therefore, no new matter is added.

Inasmuch as the present amendment raises no new issues for consideration and, in any event, places the present application in condition for allowance or in better condition for consideration on appeal, its entry under the provisions of 37 C.F.R. 1.116 is respectfully requested.

CLAIM OBJECTIONS

In the Office Action, claims 1, 4, 6, 8 and 11 are objected to because of certain informalities. In response, claim 1 is amended to obviate the objection thereto. Specifically, the phrase "said display means" has been changed to --said image display means-- in line 27, and the phrase "correction means" has been changed to --correcting means- in line 28. In addition, the word "optical" has been changed to --optimal- in line 25 of

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claim 1 and line 25 of claim 13 to correct an inadvertent typographical error which occurred during preparation of the last-filed Amendment.   In view of the amendment of claim 1, reconsideration and withdrawal of the objection to claims 1, 4, 6, 8 and 11 are respectfully requested.

REJECTION UNDER 35 U.S.C. 112

In the Office Action, claims 1, 4, 6, 8, 11, 13, 15, 16, 18, 21, 23, 24 and 26 are rejected under the first paragraph of 35 U.S.C. 112 as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or which it is most nearly connected, to make and/or use the invention.   Specifically, the Examiner states that in claims 1, 13 and 21 the limitation "optical parameter setting means..." performed by said image correction means" is not disclosed in detail to explain how the "optical parameter setting means for determining, as an optimal value".

Initially, applicants respectfully state that the prior amendment of claims 1 and 13 included an inadvertent typographical error in that the word "optical" should have been --optimal- as recited in various other portions of claims 1, 13 and 21.   Appropriate amendments have been made to claims 1 and 13

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to correct this typographical error and to obviate the rejection under the first paragraph of 35 USC 112.

The "optimal parameter setting means" recited in the claims is supported by the description on page 18, line 22 through page 21, line 14 and Figs. 2, 3A and 3B, inter alia. More specifically, "the optimal parameter setting means" corresponds to "the correction parameter setting section 43" shown in Fig. 2 and described at pages 18-21, inter alia.

It is respectfully urged that the specification provides sufficient information so that those skilled in the art can make or use the present invention.

In view of the foregoing, reconsideration and withdrawal of the rejection under the first paragraph of 35 U.S.C. 112 are respectfully requested.

REJECTION UNDER 35 U.S.C. 103

In the Office Action, claims 1, 4, 6, 8, 11, 13, 15, 16, 18, 21, 23, 24 and 26 are rejected under 35 U.S.C. 103 as being unpatentable over USP 6,097,430 (Komiya et al).

The present claimed invention defined by amended claim 1 is directed to an image processing apparatus which synthesizes a plurality of images into one image wherein the user operates a device (e.g., knob) provided on the apparatus while viewing the image on the monitor, to set a correction parameter necessary for

correcting the distortion of the images or the difference in color information between the images. (This technique corresponds to claims 1,3-9, 13, 17-19, 21 and 25-27 and Figs. 1-13). Instead of operation of the knob, correction parameters for the camera may be stored as a file, and one of the parameters is set after being selected from the file. (This technique corresponds to claims 11, 12, 15, 16, 23 and 24 and Fig. 2.)

Komiya et al teach that a user needs to know in advance the parameters of the optical system and photographing condition necessary for correction of distortion aberration as disclosed in the "Background of the Invention" portion of the present specification.

In the Office Action, the Examiner acknowledges that Komiya et al do not disclose the structural component of an optimal parameter setting means recited in claim 1 of the present application, but concludes that the structural component was obvious from the disclosure of Komiya et al.

The differences between the present claimed invention and Komiya et al will now be explained.

A. With respect to Figs. 26A and 26B of Komiya et al:

As is clear from the specification, Figs. 26A and 26B merely show a condition of barrel-shaped distortion aberration

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(Fig. 26A) and a condition after correction of the distortion
aberration (Fig. 26B) schematically.

It is apparent that Figs 26A and 26B of Komiya et al do not
disclose, teach or suggest that "the image distortion is
displayed on the screen to let the user observe changes" as
stated by the Examiner.

B.   With respect to Fig. 24 and column 7, lines 10-62 of
      Komiya et al:

This description of Komiya et al does not disclose the
structural component of the optimal parameter setting means of
claim 1 of the present application. This description merely
discloses that "the photographing conditions of the image a of
the three photographed images are read out and the correction
coefficients a1, a2 are read out from the distortion aberration
correction table in accordance with the focal length and lens
position".

In contrast, according to the present claimed invention as
recited in claim 1, an optimal correction parameter is set
without using photographing conditions such as a focal length and
a lens position. In short, according to claim 1, photographing
conditions do not have to be read out so as to set a correction
parameter.

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As can be seen from the above, Komiya et al does not suggest a manual operation. That is to say, Komiya et al merely discloses setting a correction coefficient through a process different from that recited in claim 1.

The Examiner also indicates that Komiya et al teach a table 27 which stores correction coefficients for distortion correction and outputs correction coefficients a1, a2 relating to the reason for the rejection of claims 11, 15, 16, 23 and 24.

However, table 27 of Komiya et al is for outputting correction coefficients of a distortion aberration a1, a2 from information of a focal length and lens position, which is different from the correction parameter setting means according to claim 1 of the present application.

The apparatus of the present claimed invention enables the user to easily correct the aberration while checking the image on the display or the like, and synthesizes the images subjected to correction to obtain an image having a high resolution and a wide viewing angle.

For example, in the first embodiment of the present invention, when the user operates an adjusting knob while viewing the image displayed by such a display as Fig. 3 shows, and judges that correction is sufficiently performed, the user presses an "OK" key to determine coefficients A1 and A22.

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In order to obtain such specific advantages, the present invention, as taught in the amended claims, has "correction parameter setting means" and "optimal parameter setting means", which are not disclosed, taught or even remotely suggested in the Komiya et al reference. That is, the present claimed invention as defined by independent claims 1, 13 and 21 is patentable over Komiya et al because Komiya et al do not disclose, teach or suggest, _inter alia_:

1. correction parameter setting means for setting a correction parameter necessary to correct at least distortion of said plurality of image parts generated in each overlap area or a difference between the image parts wherein said correction parameter setting means is allowed to be manually operated by a user to set the correction parameter (see claim 1, lines 8-13; claim 13, lines 7-11; and claim 21, lines 7-12); and/or

2. optimal parameter setting means for determining, as an optimal value, the correction parameters set by said correction parameter setting means, when it is judged by the user from display by the display means that correction is sufficiently performed by said image correction means (see claim 1, lines 25-30; claim 13, lines 24-28; and claim 21, lines 25-29).

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Accordingly, it is respectfully submitted that the present claimed invention as defined by claims 1, 13 and 21 are patentable over Komiya et al under 35 U.S.C. 102 and 35 U.S.C. 103.

Claims 4, 6, 8, 11, 15, 16, 18, 23, 24 and 26, which are dependent on one of claims 1, 13 and 21, are patentable over Komiya et al in view of their dependence on one of claims 1, 13 and 21.
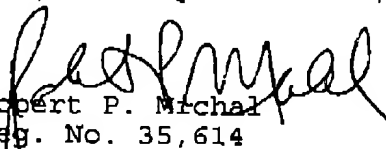
                        *   *   *   *

If the Examiner disagrees with any of the foregoing, the Examiner is respectfully requested to point out where there is support for a contrary view.

Entry of this Amendment under the provisions of 37 CFR 1.116, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

                              Respectfully submitted,

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COPY OF AMENDED CLAIMS SHOWING CHANGES MADE IN USSN 08/964,180

1.   (Twice Amended)   An image processing apparatus
comprising:

image input means for getting a plurality of image parts
dividing one composition such that the image parts have

5   overlapping areas, each having the same image of an object in the
overlapping area as in the overlapping area of the next image
part;

correction parameter setting means for setting a correction
parameter necessary to correct at least distortion of said

10   plurality of image parts generated in each overlap area or a
difference between the image parts, said correction parameter
setting means being allowed to be manually operated by a user to
set the correction parameter;

image correcting means for correcting at least one image

15   part of said plurality of image parts in accordance with said set
correction parameter to eliminate at least distortion of said
plurality of image parts generated in each overlap area or the
difference between the image parts;

image joining means for sequentially joining the plurality

20   of image parts corrected by said image correcting means in said
overlap area to restore said one composition;

image display means for displaying at least said plurality
of image parts input by said image input means or said image
parts corrected by said image correction means; and

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25   [optical] optimal parameter setting means for determining,

        as an optimal value, the correction parameter set by said

        correction parameter setting means, when it is judged by the user

        from display by said image display means that correction is

        sufficiently performed by said image [correction] correcting

30   means.

        13.   (Amended)   An image processing method comprising:

        an image input step of getting a plurality of image parts

        dividing one composition such that the image parts have

        overlapping areas, each having the same image of an object in the

5   overlapping area as in the overlapping area of the next image

        part;

        a correction parameter setting step of setting a correction

        parameter necessary to correct at least image distortion or image

        difference occurring in the overlapping areas of each image part,

10   said correction parameter setting step being allowed to be

        manually operated by a user to set the correction parameter;

        an image correcting step of correcting at least one of said

        plurality of image parts in accordance with said correction

        parameters, thereby to correct distortion of images or image

15   difference occurring in at least the overlapping area of each

        image part;

        a composition restoring step of restoring said composition

        by sequentially combining said plurality of image parts

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corrected, one to another, with overlapping the same at

20   overlapping areas; and

        an image displaying step for displaying at least said

plurality of image parts input or said plurality of image parts

corrected; and

        an optimal parameter setting step for determining, as an

25   [optical] <u>optimal</u> value, the correction parameter set by said

correction parameter setting step, when it is judged by the user

from display during said image displaying step that correction is

sufficiently performed by said image correcting step.

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